

The present invention relates to polypeptides and polypeptide constructs comprising at least one single domain antibody directed against vWF, vWF A1 domain, A1 domain of activated vWF, vWF A3 domain, gplb and/or collagen, homologues of said polypeptides, and/or functional portions of said polypeptides, for the treatment for conditions which require a modulation of platelet-mediated aggregation and which overcomes the problems of the prior art. A further aspect of the invention is methods of production of said polypeptides, methods to coat devices with such polypeptides used in medical procedures (e.g., PCTA, stenting), methods and kits for screening for agents that modulate platelet-mediated aggregation and kits for the diagnosis of diseases related to platelet-mediated aggregation.